

# CONTACT 5

the user group newsletter for june 1979  apple computer inc.®



## AN ANNOUNCEMENT . . .



We have a new telephone number for those of you with questions!

(408) 996-9868

Write it down and keep it in a safe place. It's IMPORTANT!

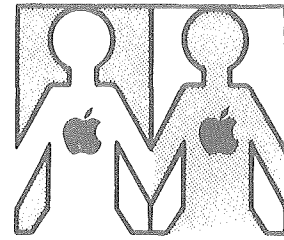
This is a direct line to our "Answer People," who are here to help you with APPLE II questions. Since it is a direct line, you won't have to leave a message with our PBX operator, or worse yet, have to wait on "hold" while someone else's questions are answered. If the line is busy when you call, it means "Please call back."

Our question answering service has been revised in this manner in order to better serve you. It was found with the old system that phone messages

would back up terribly and it took a supreme effort to get them all answered. When we called you back, because of time zone differences, quite often there was no one there to answer.

This new system should enable us to help you in a much more efficient manner. We would like your comments, both pro and con, but PLEASE put them in writing so as not to tie the phones up.

When should you call Apple? Call us when your local User Group or your Dealer is unable to answer your question, then SHARE our response with them. In this way we will work together to continually improve the depth of technical support available locally. We're always happy to help you . . .



## LOCAL USER GROUPS

### . . Apples everywhere

Apple User Groups are sprouting everywhere, including Europe. If this keeps up (and we're sure it will) there will be an Apple User Group in every neighborhood.

#### ALASKA—

##### APPLE-HOLICS

Sra Box 1313  
Anchorage, AK 99502  
G. K. Inman  
(907) 344-1300  
2nd Tuesday of Month,  
7:30 P.M.

#### CALIFORNIA—

##### ABACUS USERS GROUP

Byte Shop  
Hayward, CA 94540  
(415) 886-2980  
3rd Thursday of Month

##### APPLE BYTE USERS GROUP

14052 E. Firestone Blvd.  
Santa Fe Springs, CA 90670  
Loy Spurlock  
(213) 921-2111  
(714) 739-0711

2nd Saturday of Month

##### APPLE CORE

Computerland of Thousand Oaks  
171 E. Thousand Oaks Blvd.  
Thousand Oaks, CA 91360  
Marion A. Clarke  
(805) 495-3554

2nd Thursday of Month

##### THE APPLE PICKERS

Santa Rosa Computer Center  
604 Seventh Street  
Santa Rosa, CA 95404

##### APPLE P.I.E.

1st Thursday of Month,  
7:30 P.M.  
Collins Jr. High, Cupertino  
3rd Sunday of Month, 3:30 P.M.

Computer Plus, Inc., Sunnyvale  
Bobby Goodman (408) 255-5024  
Fred Viles (408) 298-3728  
**APPLE USERS GROUP**  
11074 San Pablo Avenue  
El Cerrito, CA 94530  
Scott Starkweather  
(415) 233-5010

**APPLE**  
Computerland of Thousand Oaks  
171 E. Thousand Oaks Blvd.  
#104

Thousand Oaks, CA 91360  
David Kay (805) 495-3554  
2nd Thursday of Month

**L.A. APPLE USERS GROUP**  
11911 Wilshire Blvd.  
Los Angeles, CA 90025  
(213) 826-8498

**COLORADO—**

**APPLE PI**  
407 Peery Parkway  
Golden, CO 80401  
Austin R. Brown, Jr.  
(303) 279-5388 (home)  
(303) 279-0300 X2434 (work)  
1st Thursday of Month,  
7:30 P.M.  
Room 271, Green Center  
Colorado School of Mines,  
Golden

**FLORIDA—**

(No name yet)  
Southern Microcomputer Co.  
5901E Northwest 151st Street  
Miami Lakes, FL 33169  
Victor Steeb  
(305) 821-7401

**HAWAII—**

**APPLE USER GROUP**  
7110 C Ohana-Nui Circle  
Honolulu, HI 96818  
Dennis Nyhagen

**ILLINOIS—**

**NORTHWEST SUBURBAN  
APPLE II USERS GROUP**  
650 Pompano Lane  
Palatine, IL 60067  
Ken Rose  
(312) 359-6723 (home)  
(312) 467-8578

**INDIANA—**

**INDY APPLE PICKERS**  
c/o Home Computer Center  
2115 E. 62 Street  
Indianapolis, IN 46220  
Doug McIntosh

**NEBRASKA—**

**APPLE SAUCE OF LINCOLN-  
OMAHA**  
2055 'O' Street  
Lincoln, NE 68510  
Russ Genzmer  
(402) 435-4467

**NEW JERSEY—**

**APPLE TREE OF CENTRAL  
N.J.**  
1411 Greenwood Drive  
Piscataway, NJ 08854  
Steve Toth  
(201) 968-7498

**NEW MEXICO—**

**THE APPLE CORPS**  
Personalized Computer Services  
1803 Corte del Ranchero  
Alamogordo, NM 88310  
Earl J. Nielsen  
(505) 437-8447

**NORTH CAROLINA—**

**GREEN APPLES**  
c/o Greensboro Byte Shop  
218 North Elm St.  
Greensboro, NC 27410  
Nancy Tenell  
(919) 275-BYTE

**MARYLAND—**

**MARYLAND APPLE II USERS  
GROUP**  
Computerland Unlimited, Inc.  
907 York Road  
Towson, MD 21204  
Kevin Parks  
(301) 321-1553

**MASSACHUSETTS—**

**APPLESEED**  
17 Saxon Road  
Worcester, MA 01602  
Donald M. Isaac

**MISSOURI—**

**THE APPLE JACKS OF  
ST. LOUIS**  
P.O. Box 8452  
St. Louis, MO 63132  
Creighton Calfee

**PENNSYLVANIA—**

(No name yet)  
Computerland of Harrisburg  
4644 Carlisle Pike  
Mechanicsburg, PA 17055

**TENNESSEE—**

**APPLE PI**  
Rt. #12, Cherokee Hills  
Sevierville, TN 37862

Richard C. Secrist  
(Formerly APPLEeachian Users  
Group)

**UTAH—**

**APPLE**  
Tripower Electric  
80 E. 4500 Street  
Murray, UT 84107  
Bruce Lerner  
(801) 262-0860

**WISCONSIN—**

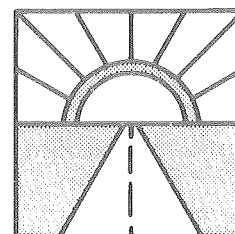
**WISCONSIN APPLE USERS**  
c/o Cybernetic Mechanism  
P.O. Box 11463  
Milwaukee, WI 53211  
Ken Blochowick  
(414) 964-6458

**BELGIUM—**

**EUROPEAN COMMUNITIES  
COMPUTER CLUB**  
c/o R. Ettore  
59, Rode Beukenlaan  
1970 Wezembeek-Oppem  
Belgium

**FRANCE—**

**APPLE OEDIP**  
8, Place Ste-Opportune-75001  
Paris, France  
Schraen Dominique  
508-46-21—508-47-71



## LOOKING AHEAD

... New Literature  
and Products

Apple Magazine is here! The first issue of Apple is now available from your local APPLE dealer. The new magazine will be published three or four times a year, and each issue will have a different theme. The theme of this issue is education, or more specifically, how computers can be used in education.

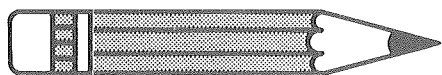


In addition to articles on education, the magazine contains our catalog and information on some new apple products.

### MORE CONTRIBUTED SOFTWARE

Volumes 3-5 of the Contributed Software Library are now available. These volumes are particularly well documented, so you should have no difficulty using them.

## EDITORIAL



by Roger Cutler, Educational Specialist

With the next issue of CONTACT we begin a regular "EDUCATOR'S CORNER" column of news and ideas for educators. We know that many schools and teachers around the country have purchased APPLE II's. We hope, through this column, to let you know what other educators are doing with their APPLES. Many publications have asked us to locate interesting projects and articles written by educators. Let us hear from you, so that we may pass along the news to others.

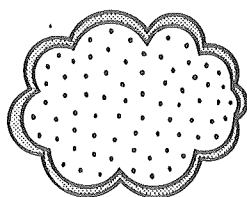
Microcomputers represent a new and exciting medium for teaching and learning. During the next year there is going to be an explosion of educational software and courseware. We at Apple want to support and help coordinate these efforts. We need to know what you are doing and what your needs are.

As many of you know, the Minnesota Educational Computing Consortium (MECC) has selected the APPLE II microcomputer for the Minnesota School system. It is converting many of its educational programs to run on the APPLE II, often with graphics, color and audio enhancements. Watch this new column for news of how you can obtain these programs.

Another interesting project is

underway at the Lawrence Hall of Science at Berkeley, California. In a special outreach project, the Hall is visiting schools in the San Francisco Bay Area with a van full of APPLE II's, bringing classes in programming to students right in their classroom. Joyce Hakansson, director of the project, reports an enthusiastic response wherever the "Apple Cart" goes.

Finally, we have plans at Apple to support education in many ways. You can expect to hear about them in the EDUCATOR'S CORNER.



## OUT OF THE MIST....

Hey! I needed that...

Well, here are some of the much praised subroutine Calls for the APPLE. This started out to be quite a project as most of the more obscure calls are buried deep in the heads of people back in Engineering. Then, just as we really got to digging, we received a copy of the ABACUS (Apple Bay Area Computer Users Society) newsletter. These guys have already done all the work! So, if what you need is not here, write to ABACUS at the following address for a copy of their list.

ABACUS  
2850 Jennifer Drive  
Castro Valley, CA 94546

It seems from the number of questions we get that most people consider Peeks, Pokes, and Calls to be somewhat magic. We've even had people ask for the Poke that would increase the capacity of their DISK II's! In light of this, maybe a short explanation of terms is necessary.

PEEK—This command allows you (or your program) to examine a specific byte of memory. It will always return a decimal number in the range of "0" to "255". The address to be examined is always specified in DECIMAL too. (This means that "PRINT PEEK (768)" will display the contents of address \$300.)

POKE—Sort of the partner of PEEK. This command stuffs a specified decimal number into an address. "POKE 768,255" will change the contents of address 768 (\$300) TO 255 (\$FF). This command is useful for placing a machine language subroutine into memory. (See the TONE ROUTINE on page 45 of your "RED REFERENCE MANUAL".

CALL—This command runs a subroutine already in ROM (Read Only Memory) or a routine "POKED" into RAM (Random Access Memory) by your program. Again, see the TONE ROUTINE in your manual.

So, without further delay, let's plunge into the interesting world of PEEK, POKE, and CALL...

**NOTE: THE POINTERS 60-63 SPECIFY THE BEGINNING AND ENDING ADDRESSES FOR A TAPE SAVE OR LOAD DATA BLOCK THEY TELL THE TAPE ROUTINE WHERE TO FIND THE DATA TO BE SAVED AND OR LOADED. MACH LANGUAGE LOAD:**

POKE 60, BEGIN MOD 256  
(LOW ORDER START ADDRESS)

POKE 62, END MOD 256  
(LOW ORDER END ADDRESS)

POKE 63, END /256 (HIGH ORDER END ADDRESS)

CALL-259 READS THE TAPE/IN PORT

## MACH LANGUAGE SAVE:

POKE 62, END MOD 256  
(LOW ORDER END  
ADDRESS)  
POKE 61, BEGIN /256  
(HIGH ORDER START  
ADDRESS)

POKE 62, END MOD 256  
(HIGH ORDER END  
ADDRESS)  
POKE 63, END /256 (HIGH  
ORDER END ADDRESS)

CALL-307 WRITES OUT TO  
TAPE

**NOTE:** *VERIFY ROUTINE  
LOOKS LIKE THIS. WE SPECI-  
FY THE BEGINNING OF  
BLOCK A, THE SOURCE  
BLOCK AND THE END OF  
BLOCK A. WE THEN SPECIFY  
THE BEGINNING OF THE  
DESTINATION BLOCK.*

## MACH LANGUAGE VERIFY:

POKE 60, BEGIN MOD 256  
(LOW ORDER BEGIN  
ADDRESS)  
POKE 61, BEGIN /256  
(HIGH ORDER BEGIN  
ADDRESS)

POKE 62, END MOD 256  
(LOW ORDER END  
ADDRESS)  
POKE 63, END /256 (HIGH  
ORDER END ADDRESS)

POKE 66, VERIFY START  
MOD 256 (LOW ORDER  
ADDRESS)  
POKE 67, VERIFY START  
/256 (HIGH ORDER  
ADDRESS)

CALL-458 VERIFY  
COMMAND

EXP: 800<1000. 1FFV  
MONITOR VERIFY  
FORMAT

**NOTE:** *MOVE AND VERIFY  
WORK THE SAME WAY. THEY  
TAKE 60 and 61 AS THE BE-  
GINNING OF BLOCK A, THE  
SOURCE BLOCK.*

*THEN TAKE 62 and 63 AS THE  
END OF THE BLOCK A, THE  
SOURCE BLOCK. THEN TAKE  
66 and 67 AS THE BEGINNING  
OF THE DESTINATION  
BLOCK OR VERIFY BLOCK B.*

## MACH LANGUAGE MOVE:

POKE 60, BEGINNING OF  
SOURCE MOD 256 (LOW  
ORDER ADDRESS)  
POKE 61, BEGINNING OF  
SOURCE /256 (HIGH  
ORDER ADDRESS)

POKE 62, ENDING OF  
SOURCE MOD 256 (LOW  
ORDER ADDRESS)  
POKE 63, ENDING OF  
SOURCE /256 (HIGH  
ORDER ADDRESS)

POKE 66, BEGINNING OF  
DESTINATION MOD 256  
(LOW ORDER ADDRESS)  
POKE 67, BEGINNING OF  
DESTINATION /256 (HIGH  
ORDER ADDRESS)

CALL-468 MOVE COM-  
MAND

EXP: 800<4000. 5000M

APPLE II MONITOR DIRECT  
CALLS LIST

CLEAR SCREEN:

CALL-936

LINE FEED:

CALL-922

SCROLL SCREEN:

CALL-912

NORMAL MODE:

CALL-380

INVERSE MODE:

CALL-384

DISPLAY REGISTERS:

CALL-321

ENTER MONITOR:

CALL-155

RING BELL:

CALL-198

SAVE REGISTERS:

CALL-182

VERT TAB:

POKE 37, VT

VERT TAB:

POKE 37, VT

SCAN INPUT BUFF:

CALL-144

LIST INTEGER:

CALL-8117

BASIC

RUN INTEGER:

CALL-6090

BASIC

SAVE INTEGER:

CALL-3776

BASIC

LOAD INTEGER:

CALL-3973

BASIC

SOME ADDITIONAL  
MONITOR CALLS:

CLEAR GR SCREEN

CALL-1998

CHANGE COLOR +3

CALL-1953

RESET TEXT MODE

CALL-1233

ADVANCE CURSOR

CALL-1036

BACKSPACE CURSOR

CALL-1008

CURSOR MOVE UP

CALL-998

CURSOR MOVE DOWN

CALL-922

SCROLL SCREEN

CALL-912

CLR TO END OF LINE

CALL-868

CLR TO END OF SCREEN

CALL-958

HOME AND CLEAR

CALL-936

WAIT FOR KEY PRESS

CALL-756

END AND CLEAR WORK SPC

CALL-8192 (INTEGER

BASIC KILL!)

RETURN TO MONITOR

CALL-167 (SET TEXT

MODE)

CALL-155 (RESET BEEP)

CALL-151 (RESET NO

BEEP)

DISPLAY REGISTERS

CALL-321 (A=XX X=XX

Y=XX P=XX

S=XX)

GET A LINE OF INPUT:

CALL-665 LF PROMPT

AND WAIT FOR

INPUT

CALL-662 PROMPT AND

WAIT FOR

INPUT

CALL-657 WAIT FOR

INPUT

ALL THESE RESPOND TO ESC AND ARROWS.  
TO FIND INPUT CHARACTERS LOOK AT THE INPUT BUFFER BY PEEKING 512 to 767 DEC (\$200 to \$2FF HEX)

## HOW TO Disk Magic...

How many times have you started merrily programming in Integer Basic only to find out that you should have been using Applesoft? Well, for you Disk II owners, here's a trick that can save you a lot of typing.

Enter this line anywhere you have room in your program. In the example we've used line "Ø", but this could be any available line number. (For this example, the symbol "@" means "Control D".)

Ø PRINT "@OPEN X": POKE 33,33:

PRINT "@WRITE X": LIST:  
PRINT "@CLOSE": END

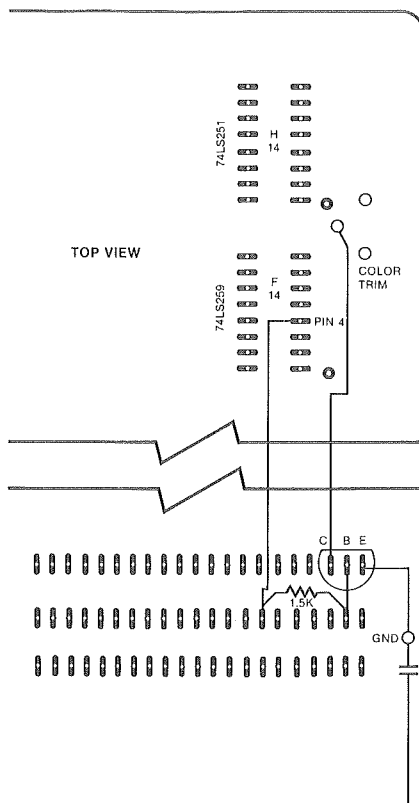
When this line's entered, type the command "RUN" and press "RETURN". Your program will now open a file called "X" and list itself into that file. When that operation is complete, get into Applesoft with the "FP" command and EXECute the file. Viola! Your program is now in Applesoft just as though you had entered it from the keyboard!

## Back to Black and White

If you are one of the pioneers that bought your APPLE before the days of the color killer modification (S/N 6000+), and you use a color TV as a monitor, then this hardware modification may be of interest to you.

First add two parts, a 2N3904 transistor (or equivalent) and a 1.5K resistor, to the

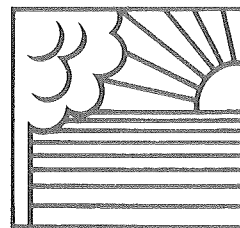
breadboard section of your Apple as shown in figure 1. The transistor base and one end of the resistor should be tied together. Then wire the other



end of the resistor to IC F14-pin 4, wire the transistor emitter to ground. The capacitor next to the edge on the corner will do as a ground.

To test the final product, put your APPLE back together and turn it on; go into BASIC, type GR, then type TEXT. The screen should go from color to black and white.

**IMPORTANT!** Please wait until your APPLE is a year old before making this modification as it will void your warranty.



## OUTSIDE THE ORCHARD NEW PRODUCTS

...of interest to  
Apple users

This column is written as a service to Apple customers, and contains information on products that we feel to be of interest to the user community. Apple Computer does not in any way recommend these products or warrant their suitability for use with the Apple II Computer.

### ... BASIC Teacher

This BASIC teaching package contains 13 lesson programs 6-16K in length. Lessons 1-12 teach Integer BASIC. The topics covered include statements and commands, keyboard control functions, loading and running programs, etc. Lesson 13 uses graphics and sound to explain peeks, pokes, and calls a user may need to produce graphics and sound effects.

Price of the BASIC Teacher is \$19.95 on tape or \$29.95 on disk. For a more detailed description of this package contact Charles Mann & Associates, 1926 South Veteran Avenue, Los Angeles, CA 90025.

### ... The big cover-up

Want to keep your Apple clean and happy? Then buy it a Computer Canopy dust cover. They are made of heavy padded vinyl and come in 12 colors.

Delivery is three weeks from Digital Dynamics Inc., P. O. Box 27243, San Antonio, TX 78227. (512) 231-2012.

### ... They laughed when I sat down to play

Turn your Apple into a concert organ. Play the keyboard just as you would an organ. And you can save your compositions for later play or editing. \$9.50 from Computers Etc. . . , 13 A. Allegheny Ave., Towson, MD 21204. (301) 296-0520.

### ... Space Pilot

Try your hand at landing a space ship on the moon. The ship responds exactly as a real one, so you've got to be good to keep from crashing. \$9.50 for your 32K Apple from Computers Etc.

### ... Continuing Medical Education

This approach to continuing medical education uses a disk-based 32K Apple II to deliver its courseware. Lectures written by 80 prominent authors from 30 medical schools present interactive and individualized conversations for AMA Category 1 credit to the physician/user.

Approximately 60 lectures, lasting 30-45 minutes, are currently available in Internal Medicine, Surgery, Primary Care, Urology, and Psychiatry. Additional lectures are being developed in these and other areas.

If you would like to receive more information about this system, please write or call Milliken Communications Corp.,

1100 Research Blvd., St. Louis, MO 63132. 1 (800) 325-4136.

### ... Home control

A new foreground/background system for home control called Apple Butler gives the Apple II the capability of running two programs concurrently; one for the monitor and control of systems in your home, and one for any other task you care to do.

The Butler provides up to 16 analog inputs for temperature, light, moisture, or any other input data. Up to 32 switch inputs are provided for security or fire sensors, push buttons, magnetic reed switches, or other on/off inputs or status indicators from controlled devices. Up to 32 output latches are available for control of output devices.

Several control modules will be available for the Apple Butler system. The first will be a solar heating control system to control a solar hot water heater, a solar assisted home heating system, a water-heating fireplace heating system, or a combination of the three. Other systems are planned for control of automatic swimming pool equipment, sprinkler systems, home or commercial greenhouses.

The Apple Butler costs \$595 from your local Apple II dealer or from Home Computer Center, Inc., 2927 Virginia Beach Blvd.,

Virginia Beach, VA 23452. (804) 340-1977.

### ... Apple '21'

Here is a true Las Vegas Blackjack game. One, two, or three players can challenge the "dealer" to win on the table. This game keeps track of all your winnings and losses and gives you a balance when you leave the table. Any player can quit or join at any time without disturbing the game.

The program requires 24K and uses the Apple HIRES routines.

Price is \$9.95 from Softape, 10756 Vanowen St., North Hollywood, CA 91605.

### ... Light Pen

A new light pen that installs directly into the Apple II I/O sockets is now available from Symtec Inc. The light pen can be used on any standard TV or display monitor in black and white or color and can provide x,y coordinate values of up to 255 in y and up to 511 in x. That's good enough to isolate a single hi-resolution point.

Provided with the light pen is a demonstration cassette written in integer BASIC. A complete listing of the light pen routine and suggested uses for the light pen is included in the applications manual.

Price for orders is \$249.95. Advanced orders and inquiries can be directed to Computerland of Southfield, 29673 Northwestern Hwy., Southfield, MI 48034, (313) 356-8111, 11am-6:30pm Tues-Fri; or Symtec Inc., P. O. Box 462, Farmington, MI 48024.

### ... APPLE CLOCK

A Real-Time Calendar/Clock for Apple II keeps time and date in 1 msec increments for over a year. The calendar, clock, and event timer functions are easily accessed from BASIC; and a rechargeable battery keeps the clock "ticking" when the computer is off. A software con-

### ... Fast Floating Point

The AMD9511 Fast Floating Point Processor Board increases the computation speed of the APPLE II such that the calculation of 5000 sines requires only about 24 seconds rather than 133 seconds. The table below shows the speed increases for

various math functions:

The price for the fully assembled and tested board is \$450.00, including shipping and handling. From your local Apple dealer or Computer Station, 3659 Nameoki Road, Granite City, IL 62040. 1 (618) 452-1860.

FUNCTION	AMD9511 BOARD	APPLESOFT II
X=SGN(I)	14 seconds	14 seconds
X=SQR(I)	15 seconds	250 seconds
X=SIN(I)	24 seconds	133 seconds
X=COS(I)	24 seconds	135 seconds
X=TAN(I)	27 seconds	246 seconds
X=ATN(I)	27 seconds	224 seconds
X=LOG(I)	25 seconds	114 seconds



10260 Bandley Drive  
Cupertino, California 95014  
(408) 996-1010

THIRD CLASS  
U.S. Postage Paid  
Permit No.  
3440  
San Francisco, CA

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trolled interrupt is provided to allow pre-programmed activities to take place.

By adding the Apple Clock to this manufacturer's Remote Control System you have real-time control and monitoring of remote devices over regular AC wiring.

Price of the Apple Clock is \$199 assembled and tested. Delivery is 30 days. Mountain Hardware, Inc., 5523 Scotts Valley Drive, Scotts Valley, CA 95066. (408) 438-4734.

#### ... Quality Software

This company has a new line of software for the Apple II. TEXT EDITOR (\$17.95) allows management of free form text. U-DRAW (\$17.95) is a hi-res programmable graphics editor with tape I/O. ELECTRIC CRAYON (\$17.95) is a graphics editor similar to U-DRAW, but in lo-res color. MUSIC BOX (\$12.95) gives three octave sound with no additional hardware. NUMBER CRUNCHER (\$9.95) is a set of single precision math and ASCII to HEX subroutines. CHRISTMAS

TAPE (\$9.95) is a musical Christmas caroler with blinking color Christmas tree. Also available are games at \$12.95 each.

Available from Apple dealers or the Muse Co., 7112 Darlington Drive, Baltimore, MD 21234. (301) 661-8531.

#### ... Hello Houston, this is Apple control

Energy Technology has announced an interface for the Apple II that allows a user to remotely control any 24V, 110V, or 220V utility or appliance to which an Energy Technology remote unit is attached. The system utilizes Energy Technology's industrial remotes which consist of 110V plug-in, 24V thermostat override, 24V non-thermostat override, and 220V in-line models. All units are shipped completely assembled and tested. The Apple II Interface is \$189.00; remotes range in price from \$85.00 to \$120.00. Energy Technology, Inc., 102 Conway, P. O. Box Q, Las Cruces, NM 88001. (505) 524-8615.

#### ... Trade you my PET for your Apple

If you, or one of your friends, bought a PET or a TRS-80 and now want to trade up to an APPLE II, don't despair, there is a way. Newman Computer Exchange will buy that used machine. They have a used computer "blue book" and procedure letter that your friendly Apple dealer can get by writing or calling:

Newman Computer  
Exchange, Inc.  
1250 North Main Street  
P. O. Box 8610  
Ann Arbor, MI 48107  
(313) 994-3200

Here are examples of their trade-in allowance:

TRS-80	
TRS-80, 4K, level I	\$225.00
CRT-41 Recorder	20.00
12" Video Display	70.00
	<u>\$315.00</u>

PET	
2001-8K	\$400.00

You can't get all your money back, but you can get half of it back, which you can then apply to a new APPLE II.